

---

---

---

तरल शक्ति पद्धतियाँ और घटक — सिलेंडर —  
पिस्टन स्ट्रोक की मूल श्रृंखला

( पहला पुनरीक्षण )

Fluid Power Systems and  
Components — Cylinders —  
Basic Series of Piston Strokes

( First Revision )

ICS 23.100.20

© BIS 2020



भारतीय मानक ब्यूरो  
BUREAU OF INDIAN STANDARDS  
मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली – 110002  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI-110002  
[www.bis.gov.in](http://www.bis.gov.in) [www.standardsbis.in](http://www.standardsbis.in)

## NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 4393 : 2015 ‘Fluid power systems and components — Cylinders — Basic series of piston strokes’ issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on recommendation of the Fluid Power Systems Sectional Committee and approval of the Production and General Engineering Division Council.

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within a circuit. One component of such systems is the fluid power cylinder. This is a device which converts fluid power into linear mechanical force and linear motion. It consists of a movable element, i.e. a piston and piston rod, operating within a cylindrical bore.

This standard was first published in 1983 which based on ISO 4393 : 1978 ‘Fluid power systems and components — Cylinders — Basic series of piston strokes’. The first revision of this standard has been undertaken to align it with the latest version of ISO 4393 : 2015.

In this revision, more dimensions for pistons strokes are included varying from 5 to 500 mm.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviation. Certain terminologies and conventions are, however, not identical to those used in the Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard, which is to be substituted in its place, is listed below along with its degree of equivalence for the edition indicated.

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 5598 Fluid power systems and components — Vocabulary	IS 10416 : 2019 Fluid power systems and components — Vocabulary (second revision )	Identical with ISO 5598 : 2008

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values ( revised )’.

*Indian Standard*

**FLUID POWER SYSTEMS AND  
COMPONENTS — CYLINDERS —  
BASIC SERIES OF PISTON STROKES**

*( First Revision )*

**1 Scope**

This International Standard specifies the preferred series of piston strokes for application to single-acting and double-acting fluid power cylinders. These strokes are mainly used for pneumatic cylinders but may also be used for hydraulic cylinders.

**2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

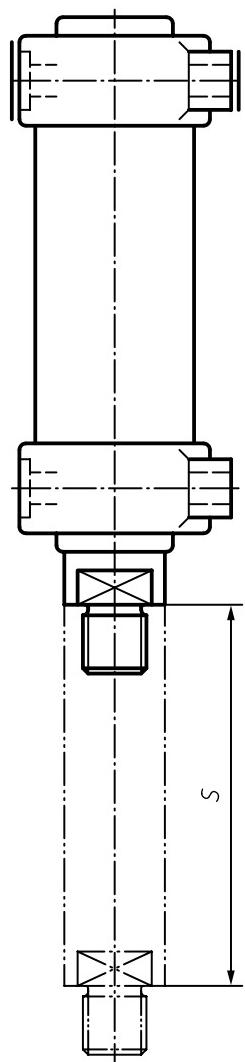
ISO 5598, *Fluid power systems and components — Vocabulary*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in ISO 5598 apply.

**4 Dimensions**

Refer to [Figure 1](#) for the identification of piston strokes.



**Figure 1 — Identification of piston strokes**

Select the preferred series of piston strokes from the dimensions in [Table 1](#).

**Table 1 — Piston strokes**

S	Dimensions in millimetres											
	5	10	25	50	80	100	125	160	200	250	320	400
NOTE If an extension of the series shown above is required, use the rounded-off R 10 series of values as shown in ISO 497.												

## 5 Identification statement (reference to this International Standard)

It is recommended that manufacturers use the following statement in test reports, catalogues and sales literature when electing to comply with this International Standard:

“Preferred series of piston strokes selected in accordance with ISO 4393, *Fluid power systems — Cylinders — Basic series of piston strokes*.”

## Bibliography

- [1] ISO 497, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers*



## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

### Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc No.: PGD 36 (15339).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephones: 2323 0131, 2323 3375, 2323 9402

Website: [www.bis.gov.in](http://www.bis.gov.in)

### Regional Offices:

		Telephones
Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{ 2323 7617 2323 3841
Eastern	: 1/14 C.I.T. Scheme VII M, V.I.P. Road, Kankurgachi KOLKATA 700054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern	: Plot No. 4-A, Sector 27-B, Madhya Marg CHANDIGARH 160019	{ 265 0206 265 0290
Southern	: C.I.T. Campus, IV Cross Road, CHENNAI 600113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western	: Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892
<b>Branches</b>	AHMEDABAD. BENGALURU. BHOPAL. BHUBANESHWAR. COIMBATORE. DEHRADUN. DURGAPUR. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. JAMMU. JAMSHEDPUR. KOCHI. LUCKNOW. NAGPUR. PARWANOO. PATNA. PUNE. RAIPUR. RAJKOT. VISAKHAPATNAM.	